

# THE SNAKES OF IRAQ.

BY

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*Late Iraq Health Service.*

In 1927, when the writer was appointed to teach Biology in the new medical college at Baghdad, little appeared to be definitely known about the snakes of the country. There were people who said that no poisonous snakes were to be encountered in Iraq, and others who vouched vehemently to have seen Kraits and Russell's vipers.

The Central Laboratory had, however, identified specimens of *Echis carinatus* and *Vipera lebetina* in connection with snake-bite fatalities and there was in existence a scanty literature.

The literature comprised *Notes on the Animals of Mesopotamia*,<sup>1</sup> a small booklet published by the B.N.H.S. in 1916, a paper in the Journal of the Society by Boulenger in 1920<sup>2</sup>, and a further paper by Miss Joan Procter<sup>3</sup> in the same publication the following year. The information about Mesopotamian snakes in the first of the above is apparently a collection of the relevant data from Boulenger's Catalogue of Snakes in the British Museum.<sup>4</sup> Boulenger's 1920 paper is a list of specimens taken by members of the Mesopotamian Expeditionary Force during the War, and Miss Procter's contribution is a similar and additional list.

Cases of snake-bite, some fatal, kept cropping up, and in most instances the snake was not secured. It was thought worth while to attempt something in the nature of a rough survey of the country's snake population with a view to establishing the species that occurred, ascertaining if there were any peculiarities of distribution or relative abundance, and formulating some simple key or means by which the poisonous species could be identified easily in the field. Moreover it was thought advisable to have a representative collection of specimens in Baghdad.

Officials were written to in the provinces and responded generously with specimens and notes. Searches were made in hospitals and laboratories, and specimens were unearthed from mouldy oblivion on several occasions. The Royal Air Force Medical Service and the British Officers of the Assyrian Levies contributed valuable material and notes, and students provided a further fruitful source. The investigation covered roughly two years, 1928 and 1929, the significance of the data amassed being assessed in mid-1930.

The writer has no claim to any specialist knowledge of snakes and is painfully aware that much information that might have been collected from the hundred odd specimens examined, was lost through lack partly of time, partly of works of reference, but mainly through

<sup>1</sup> Bombay Nat. Hist. Soc. : Notes on the Animals of Mesopotamia, 1916.

<sup>2</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>3</sup> Joan. Procter : Further Lizards and Snakes from Persia and Mesopotamia. *J. B. N. H. Soc.* xxviii, No. 1, 1921.

<sup>4</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

lack of knowledge. Much has been learnt since farewell was said to the specimens, now in the Zoology Museum of the Royal College of Medicine, Baghdad. However, it has been thought as well to put on record the few additions to our knowledge of Mesopotamian snakes that accrued.

I am indebted, for permission to publish, to the Director of Public Health, Iraq, the Inspector-General of Health Services, Iraq, and the Dean, the Royal College of Medicine, Baghdad.

Modern political Iraq is a land of diverse features. To the north-east, the desert plains of the south and west break up to be replaced by the hills and mountains rising away to Persia. To the south stretches the monotonous plain threaded by the two rivers, away to the Persian Gulf. The course of the River Euphrates is beset with lake and marsh. The great Shamiyah Desert rolls away in a gradual ascent to the west. Extremes characterise the climate; a temperature of 125° F. is a commonplace in the summer in Baghdad, and I have seen frozen puddles on the roads during winter. In Kurdistan, the north and north-eastern portion of Iraq, it is of course much colder in winter.

As might be expected, having regard to the geographical position and physical make-up of the country, its fauna is a jumble. Species that are typically European, African and Asiatic, all occur, and in the waters of the Persian Gulf is found a sea snake (*E. schistosa*) which ranges as far as China and Australia.

It is considered that the twenty-four specimens dealt with below are unlikely to be supplemented in the future. They represent over two years collecting from all parts of the country and the available literature has been utilised. Seven families are represented and fifteen genera. These are Typhlops, Leptotyphlops, Eryx, Natrix, Coluber, Lytorhynchus, Contia, Tarbophis, Malpolon, Psammophis, Enhydrina, Naja, Vipera, Cerastes, and Echis. Of the *Colubridæ* there are eleven *Aglyphs* and four *Opisthoglyphs*. The old *Proteroglyphs* are represented by one of the *Hydrophiidæ* and one of the *Elapidæ*. The vipers number three. Five of the twenty-four species are considered to have venoms dangerously toxic to man. These species are *Enhydrina schistosa*, *Naja morgani*, *Vipera lebetina*, *Cerastes cornutus*, and *Echis carinatus*.

#### Family : TYPHLOPIDÆ.

*Typhlops braminus*, Daudin.—The Common Worm Snake.

*Vernacular Names*.—It would most likely be spoken of as 'Dood' which is the Arabic for worm.

This species has been recorded from South Africa, Arabia, Southern Asia as far over as the Philippines Island in the Indian Ocean and Mexico. One suspects the last named to be an importation. During the Great War a single specimen was taken in Basra.<sup>1</sup>

The distribution being what it is, there is no reason why *T. braminus* should not be fairly common in Iraq. Its nocturnal and burrowing habits will, of course, provide against its being frequently encountered.

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

*Typhlops vermicularis*, Merrem.—The Greek Blind Snake.

*Synonyms*.—*Typhlops syriacus*,<sup>1</sup> *Typhlops wilsoni*.<sup>2</sup>

*Vernacular Names*.—Like the preceding species this snake would be spoken of by the Iraqi Arab as a 'Dood', that is, worm.

Specimens have been recorded from Greece and its Archipelago through the Levant to Persia, Afghanistan and Turkestan.

Iraq may now take its place in this list as two specimens were obtained in 1928 and 1929.

Locality.	Length (ins.)	Rows.	Nasals.	Length : Breadth.	Remarks.
Baghdad ...	9.2	24	Division incomplete.	46 : 1	Purplish brown, belly paler.
Nasiriyah ...	6.5	24	„	50 : 1	„

Like *T. braminus*, this species is probably fairly common in the country.

Family : LEPTOTYPHLOPIDÆ.

*Leptotyphlops macrorhynchus*, Jan.

*Synonyms*.—*Glauconia macrorhynchus*.<sup>3</sup>

*Vernacular Names*.—This snake, again, would probably be referred to as 'Dood', but it would be called a 'Sul' by some natives who say that the attributes of the latter are thinness, redness, smallness and the ability to jerk about with great activity.

Previous records for the species include North Africa, Sind, Baluchistan and, in Iraq, 'Euphrates' and 'Faleya' (Fallujah?).<sup>4</sup> During 1928-29 three further specimens were taken in the country. Two were revealed during digging operations on the south bank of the Diyala River at Baqubah and the other specimen was secured in Nasiriyah. The species would appear to be uniformly distributed throughout riverain Iraq.

Locality.	Size (ins.)	Rows.	Tail—Total Ratio.	Remarks.
Baqubah ...	7.3	14	1/10	Uniform pink.
Do. ...	8.0	14	1/11	„
Nasiriyah ...	8.8	14	1/12	Uniform brown.

Family : BOIDÆ.

Sub-family : BOINÆ.

*Eryx jaculus familiaris* Linnaeus.—The Javelin Sand Boa.

*Vernacular Names*.—'Batra' is applied to the Sand Boa throughout Arabic-speaking Iraq.

<sup>1</sup> Jan. : Icon. Oph., p. 15, l. 3, 1864.

<sup>2</sup> Wall. F. : *J. B. N. H. Soc.* xviii, p. 802, 1908.

<sup>3</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>4</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

The species ranges from Algeria, Egypt, the Levant, Roumania, Greece and Turkey through Asia Minor and Iraq to Persia. In Iraq, specimens have been previously recorded from Basra, Sheikh Saad, Shaiba, Amara, Baghdad and 'Mesopotamia'.<sup>1</sup> In 1928-29 eight more specimens were examined. They came from Baghdad<sup>1</sup>, Baqubah<sup>1</sup>, Hinaidi and Nasiriyah in the riverain plains, Mandali at the foot of the Pusht-i-Kuh and Sulamainia in the Kurdish hills. The species is apparently uniformly distributed throughout the country.

Locality	Size (ins.)	Ventrals	Caudals	Dorsal Rows	Colour (dorsum)	Tail-Total Ratio	Remarks
Baghdad	26	200	26	51	Greenish yellow with brown markings	1/13	
"	10.5	200	30	50	"	1/10	
Hinaidi	19.5	195	28	49	"	1/13	
Baqubah	25	197	21	47	"	1/15	Tail mutilated.
"	32	202	25	51	"	1/11	
Nasiriyah	18.5	186	30	53	"	1/11	
Mandali	18	203	31	53	"	1/10	Markings very heavy. Belly speckled.
Sulamainia	10	205	31	51	Pale grey with brown markings	1/10	

In all specimens the perioculars numbered eleven and the anal scale was undivided. The dorsal scales were invariably keeled posteriorly. The bellies were of a uniform white or pale straw colour with the exception of the Sulamainia specimen which had a heavy speckling of dark brown. The scale counts of ventrals, caudals and dorsal rows average higher than the Egyptian specimens reported by Anderson.

Family : COLUBRIDÆ.

Series : AGLYPHA.

*Natrix tessellatus* Laurenti.—The Tessellated Water Snake.

*Synonyms*.—*Tropidonotus tessellatus*.<sup>2</sup>

*Vernacular Names*.—Known to the Arabs of riverain Iraq as 'Haiat al Mai'.

The distribution of the species is South Europe and Russia, Egypt and the Levant, Asia Minor, Iraq, Persia, Siberia, West China and

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>2</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

North-West India. In Iraq specimens have hitherto been recorded from Basra and Fao,<sup>1</sup> and also from Basra, Qualet Saleh, Sheikh Saad, Haqicole, Faleya (Fallujah?), and Zobeya (Zobeir?).<sup>2</sup> Fifteen new records were obtained in 1928-29. All had the dorsals strongly keeled in nineteen rows, the anal was invariably divided and the supralabials always numbered eight. In all but three specimens the fourth supralabial only, entered the orbit. Colour varieties were numerous and were not related to size or 'counts' nor was any one colour variety apparently peculiar to any particular locality or type of habitat.

Locality	Size (ins.)	Ventrals	Caudals	Colour	Remarks
Baghdad ...	22	169	58	Jet black. Belly spotted white.	Fourth and fifth supralabials enter eye.
„ ...	29	167	56	Olive. Belly black and white.	...
„ ...	25	166	57	„	...
„ ...	24	173	60	„	...
Nasiriyah ...	23.5	169	62	„	...
„ ...	25.5	171	65	„	...
Nejaf ...	25	168	61	„	...
Tuz ...	19	168	66	„	...
„ ...	19	170	64	Olive with brown markings. Belly black and white.	Fourth and fifth supralabials enter eye.
Baqubah ...	27	170	61	„	...
„ ...	34	167	55	„	...
Mosul ...	21	171	66	Olive with brown markings. Belly white.	...
Beled Ruz ...	29	167	73	Olive with brown markings. Belly black and white check.	Third, fourth and fifth supralabials enter eye.
Hinaidi ...	26	172	63	„	...
Mandali ...	24	169	62	„	...

This is one of the two commonest snakes in the country and may be seen in numbers almost anywhere in Iraq particularly after the annual floods. I have seen many in pools in the Euphrates near Nasiriyah swimming about vigorously and often with small fish in their mouths. They always assume a very aggressive attitude when approached.

*Coluber dahlii* Fitzinger.—The Dahl's Whip Snake.

*Synonyms*.—*Zamenis dahlii*.

*Vernacular Names*.—Shares the Arabic name 'Zerrag' with *C. ventrimaculatus*.

This species is found in South Europe, Egypt, the Levant, Asia Minor, Iraq and Persia. In Iraq specimens have been recorded

<sup>1</sup> Bombay Nat. Hist. Soc. : Notes on the Animals of Mesopotamia, 1916.

<sup>2</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

previously from Baghdad.<sup>1</sup> In 1928 a further specimen was secured from a Baghdad garden and in 1929 another was sent in from a garden in Baqubah.

Locality	Size (ins.)	Ventrals	Caudals	Remarks
Baghdad ...	45	2.5	132	Both specimens were olive with white bellies. Anteriorly there were 5 pairs of yellow-edged dark green blotches; the anterior pair had united to form a collar.
Baqubah ...	39	215	133	

In each case the tail was about a third of the body length, there were nineteen rows of scales, the anals were divided and there were eight supralabials, the fourth and fifth of which entered the eye. This snake seems to be quite rare in Iraq.

*Coluber diadema* Schlegel.—The Clifford's Whip Snake.

*Synonyms*.—*Zamenis diadema*.<sup>2</sup>

*Vernacular Names*.—Known to the Arabs of the plains as 'Raqta'.

Clifford's Whip Snake is found in North Africa, Arabia, Iraq, Persia, Turkestan, Baluchistan and Kashmir.

In Iraq specimens have been previously recorded from Basra, Baghdad, Sheikh Saad, Shaiba, Faleya (Fallujah?), Zobeya (Zobeir?), Nasiriyah, Baqubah, and Daur.<sup>1</sup> Twelve new specimens were secured in 1928 and 1929.

Locality	Size (ins.)	Ventrals	Caudals	Rows	Perioculars	Supralabials	Remarks
Baghdad ..	30	220	72	29	9	11	Olive, darker markings.
" ...	21	218	74	33	9	11	" "
" ...	53	226	68	31	7	12	" "
" ...	49	222	72	31	8	11	" "
Fallujah ...	55	207	60	29	8	11	" "
Nasiriyah ...	52	214	70	31	8	11	" "
" ...	50	218	74	31	8	11	" "
Samarra ...	36	216	73	31	8	11	Brown, darker markings.
Baqubah ...	46	223	65	31	8	11	Olive, darker markings.
Gebal Hamrin	42	229	68	31	9	11	" "
Khaniqin ...	41	224	65	33	9	11	" "
Sulamainia ...	33	233	87	35	9	13	Pale grey, darker markings.

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>2</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

In all of the specimens the anal was divided, the dorsals were keeled, particularly posteriorly; the belly was of a pale uniform straw colour, and the darker markings were heavy and defined. The three longitudinal marks on the head and neck were invariably distinct. The tail averaged a sixth of the total length.

Specimens were taken in such diverse habitats as houses, riverain cultivation, desert and mountain. A small rat was removed from the stomach of a Baghdad specimen.

*Coluber jugularis* Laurenti.—The European Whip Snake.

*Synonyms*.—*Zamenis gemonensis*.<sup>1</sup>

*Vernacular Names*.—Known to the Arabs of Iraq as 'Arbid' or 'Abrid' i.e. the black snake. It presumably shares the name with the much rarer and smaller *Naja morgani*.

It has been recorded from the West Coast of Europe to South Western Asia. The '*asianus*' variety to which most Iraqi specimens seem to belong is found in Egypt, the Levant, Iraq and Persia. In Iraq specimens have previously been taken in Baghdad, Basra, Amarah, Haqicole and Faleya (Fallujah?).<sup>2</sup> In 1928-29 further specimens were secured from Baghdad, Baqubah and Nasiriyah, the North of Iraq not being at all represented.

The eight specimens recorded below had their dorsals in nineteen rows, the anal divided and eight supralabials with the fourth and fifth invariably entering the orbit. The tail was a third to a quarter of the total length. The colour of the dorsum ranged from dark brown to black, each individual scale having a pale yellow or white longitudinal streak. The bellies were either red, yellow, or white, blotched and peppered with black, or of a uniform white.

Locality	Size. (ins.)	Ventrals	Caudals	Remarks
Baghdad	52	165	104	
"	43	198	124	
"	46	203	92+	Tail mutilated.
"	52	198	100	
Baqubah	48	202	98	
"	53	188	107	
Nasiriyah	45	193	100	
"	50	198	99	

The 'Urbid' is much feared by the Arabs, possibly on account of its large size and fierceness when cornered, but also I am inclined to think, because it is unlikely to be distinguished from the uniformly black *Naja morgani*. Certainly the latter is not a 'biter' as far as

<sup>1</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>2</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

records go but it belongs to a poisonous genus, accidents with it have probably occurred and any 'Urbid' or black snake thereafter would be feared.

*Coluber ravergeri* Menétriés.—Raverger's Whip Snake.

*Synonyms*.—*Zamenis ravergeri*.

*Vernacular Names*.—Too rare in Iraq to have one. Would probably be spoken of as a 'Zerrag'.

The distribution is Transcaucasia, Persia, Baluchistan and Afghanistan. There are no previous records from Iraq. Two specimens were obtained in the Autumn of 1929, one from a Mosul house and the second from an earthwork near the town. In each there were two pre-oculars and two post-oculars, the anals were divided, the dorsal rows were faintly keeled and numbered twenty-three, and in each case the fifth and sixth labials entered the orbit. The tails were a quarter of the respective body lengths.

In both specimens the three characteristic longitudinal dark lines on the tail were beautifully defined.

Locality	Size (ins.)	Ventrals	Caudals	Supra-labials.	Colour	Remarks
Mosul, House	42	210	98	9	Pink with brown markings.	Markings very defined.
Mosul, Earth-works.	40	210	102	10	Olive with brown markings.	Less so.

The snake is a rarity and Iraq appears to be the westernmost limit of *Var. typica*, further West a *Var. nummifer* is found.

*Coluber ventrimaculatus* Gray.—Gray's Whip Snakes.

*Synonyms*.—*Zamenis ventrimaculatus*.<sup>1</sup>

*Vernacular Names*.—Known throughout Arabic-speaking Iraq as 'Zerrag' and 'Nishab', both words meaning 'arrow' and being applicable apparently to any thin and swift snake. The names would thus be used also of *C. dahlia* and *C. ravergeri*. I have a note to the effect that in Diwanayah a specimen taken from a date palm was referred to as 'Jaaferiyah'. It is also quite commonly referred to as 'Haia al Asfar', the yellow snake.

The Bombay Natural History Society<sup>2</sup> gives the distribution as Mesopotamia to India. Wali<sup>3</sup> limits the Indian distribution to the North-West of the Peninsula. Tristram records it from Palestine.<sup>4</sup>

In Iraq previous records are from 'Euphrates (Euphrates Expedition)', 'Mesopotamia' and Fao,<sup>2</sup> also from Basra, Sheikh Saad, Ezra's Tomb (Qurna), Shaiba, Faleya (Fallujah?), Zobeya (Zqbier?),

<sup>1</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>2</sup> Bombay Nat. Hist. Soc. : Notes on the Animals of Mesopotamia, 1916.

<sup>3</sup> Wall, F. : How to Identify the Snakes of India, 1923.

<sup>4</sup> Tristram, H. B. : Survey of Western Palestine, 1883.



Nasiriyah, Baqubah and Daur.<sup>1</sup> Others again from Baghdad and Amarah.<sup>2</sup> In 1928-29 eighteen further specimens were examined out of literal dozens sent in. The localities represented were Baghdad, Basra, Nasiriyah, Nejaf, Diwaniyah, Baqubah Hillah and Tuz Khurmatu.

Locality	Size (ins.)	Ventrals	Caudals	Supra-labials	Touching eye	Remarks
Baghdad	32	210	100	9	5-6	
„	14	200	76	10	4-5	
„	41	210	75	10	6-7	
„	14.5	205	93	9	5-6	
„	40	210	99	9	5-6	
„	40	210	93	9	5-6	
Nasiriyah	43	211	90	9	5-6	
„	23	209	87	9	5-6	
Basra	33.5	204	85	9	5-6	
Nejaf	36	220	94	9	5-6	
Diwaniyah	40	215	99	9	5-6	Taken in a date palm.
Baqubah	39	217	86	9	5-6	
„	41.5	208	82	9	5-6	
„	34	211	100	9	5-6	
Hillah	29.5	211	79	9	5-6	
„	35	218	85	9	5-6	
Tuz	37	209	93	9	5-6	
Iraq	28	211	97	9	5-6	

In all specimens the tail approximated to a quarter of the body length, the dorsal rows numbered nineteen, the anal was divided, and the colours were, dorsally, olive barred crosswise with black, and ventrally a pale straw ground with lateral black spots in a regular series. The nape was invariably heavily marked with a thick black longitudinal line and the vertex of the head usually bore two black markings like 'commas' placed back to back.

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>2</sup> Procter, Joan. : Further Lizards and Snakes from Persia and Mesopotamia. *J. B. N. H. Soc.* xxviii, No. 1, 1921.

This snake is extremely common in houses and gardens in Iraq. It feeds on small frogs and lizards. When handled it bites fiercely but of course quite harmlessly. Two natives that were produced on different occasions for me to see because they claimed to be snake-charmers, brought the Gray's Whip Snake with them as their stock-in-trade. It is probably this snake of which the Sumerians have left a record in their word 'Dashna', a yellow or green snake.

*Lytorhynchus diadema* Dum. and Bibr.—The Diademed Sand Snake.

*Vernacular Names.*—Being rare, insignificant and possessed of no notable attribute it has no vernacular name as far as I know.

Its distribution is North Africa, Arabia, Syria, Iraq and Persia. In Iraq specimens have previously been recorded from Shaiba and Faleya (Fallujah?).<sup>1</sup> At the end of 1929 a further specimen was secured from Rutba in the Shamiyah Desert. The specimen was eleven inches long, the tail being a seventh of the total length. The ventrals numbered 171, the caudals 36, and the dorsal rows 19. The anal was divided. There were eight supralabials of which the fifth entered the eye. There were two pre-oculars. The pupil was circular although, according to the literature, it should be vertically elliptic. The 'bobbin' shaped rostral was beautifully exhibited. The dorsum was coral-red with thirty heavy black cross bars. The belly was white. A black cephalic blotch was continued through the eyes from the vertex to the corners of the mouth.

*Contia collaris* Menétriés.—The Collared Dwarf Snake.

*Vernacular Names.*—None are known of.

The distribution is Caucasus, Syria, Iraq, Persia and Arabia. In Iraq, specimens had previously been recorded from 'Ruins of Nineveh'<sup>2</sup> and Baghdad.<sup>1</sup> In 1929 two further specimens were obtained. One was taken from the crop of a houbara (*Chlamydotis undulata*), shot in the neighbourhood of Baqubah, and the other was sent from Sulamainia in the Kurdish hills.

Locality				Size (ins.)	Ventrals	Caudals
Baghdad	...	...	...	12	172	62
Sulamainia	...	...	...	10	195	62

In both specimens the tail was a quarter of the body length, the rows numbered fifteen, the anal was divided, and the supralabials numbered seven of which the third and fourth entered the eye. The colour was fawn with the head and neck heavily blotched with black; the belly was a pearly white.

*Contia coronella* Schlegel.—The Syrian Dwarf Snake.

*Vernacular Names.*—None known of.

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>2</sup> Boulenger, G. A. ; Catalogue of Snakes in the British Museum, 1893-96.

The distribution is Syria, Palestine, Iraq and Persia. In Iraq, specimens have previously been recorded from Shaiba, Zobeya (Zobeir?) and Faleya (Fallujah?).<sup>1</sup> In 1928 a specimen preserved in spirit was unearthed from a Baghdad office. It was labelled 'Rutba'.

It was 7·4 inches long, the tail measuring two inches. The ventrals numbered 136, the caudals 45, and the dorsal rows 15. The anal was divided and there were seven supralabials of which the third and fourth entered the eye. There were two post-oculars. The dorsum was a dull brown (spirit specimen) with sixty-three darker regular cross bars, the first one being markedly heavy and forming a collar. The belly was white with a faint suggestion of speckling.

*Contia decemlineata* Dum. and Bibr.—*The Lined Dwarf Snake.*

*Vernacular Names.*—None known of.

The distribution is Syria, Palestine, Iraq and Persia. There are no previous records from Iraq, but in 1929 three specimens were received from the Kurdish hills. One specimen had the head and neck destroyed and one had the extremity of the tail missing.

Locality	Size (ins.)	Ventrals	Caudals	Remarks
Sulamainia (alt. 1,300 ft.) ...	21	171	66	Complete specimen.
Tislaja (alt. 2,500 ft.) ...	21+	145+	66	Head and neck destroyed.
Diana (alt. 1,600 ft.) ...	13+	163	30+	Tail mutilated.

The tail of the intact specimen was a quarter of the total length, the dorsal rows numbered seventeen and the anal was divided in all three specimens. The two complete heads exhibited seven supralabials with the third and fourth entering the eye, one pre-ocular, and two post-oculars. All three were alike in colouring. The dorsum was a pale fawn with two pairs of longitudinal fine brown lines; a pair running down each side of the back. The individual dorsal scales had barely perceptible, central, paler streaks. The bellies were pearly white.

All three specimens were taken in September in gravelly areas at considerable altitudes.

*Contia persica* (Anders.)—*The Persian Dwarf Snake.*

*Vernacular Names.*—None known of.

The distribution is Iraq and Persia. From Iraq two specimens are recorded<sup>2</sup>, one from Kizil Robot and the other from the neighbouring Jebal Hamrin hills.

I am not at all satisfied as to the relationship of *C. collaris* and *C. persica* and would like to examine a larger series of the genus

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>2</sup> Procter Joan. : Further Lizards and Snakes from Persia and Mesopotamia. *J. B. N. H. Soc.* xxviii, No. 1, 1921.

in Iraq. One or two valuable characteristics I unfortunately made no note of at the time when examining the two specimens recorded under *C. collaris*; in colour they were identical.

## Series: OPISTHOGLYPHA.

*Tarbophis fallax iberus* Eichwald.—The Caucasian Cat-Snake.

*Synonyms*.—*Tarbophis iberus*.<sup>1</sup>

*Vernacular Names*.—None known of.

The distribution is Caucasus, Iraq and South-West Persia. Six specimens have previously been recorded from Baghdad and Mesopotamia.<sup>2</sup> In 1928 and 1929 a further eight were examined from Baghdad, Mandali and Khaniqin.

Locality	Size (ms.)	Ventrals	Caudals	Dorsal colour markings	Remarks
Baghdad	44	240	68	46 spots	Light specimen. Third, fourth and fifth supralabials enter eye.
"	32	217	73	60 "	Divided anal. Light specimen.
"	17	224	91	50 "	Dark specimen. Seven supralabials. Belly dark.
"	16	239	67	(?)	Faded old spirit specimen.
"	14	237	80	48 "	Belly very dark. Third, fourth and fifth supralabials enter eye.
"	13	232	72	45 "	Very dark specimen. Third and fourth supralabials enter eye.
Mandali	21	216	63	47 "	Light specimen.
Khaniqin	30	239	31	(?)	"

The tails averaged a sixth of the total lengths. The rows of dorsals numbered 21 invariably and, with the exception of one specimen (Baghdad No. 2), the anals were all undivided. The supralabials numbered 8 in all specimens but one (Baghdad No. 3) and in five specimens (Nos. 2, 3, 4, 7 and 8) the fourth and fifth entered the eye. The iris was invariably golden. The colour of an adult specimen was pale brownish pink with barely perceptible brown blotches 46 to 60 in number. The bellies were white, blotched, peppered, and marbled, irregularly with black. In the specimens under 20 inches in length, the dorsum was darker and more grey than

<sup>1</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>2</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

pink, and the black element very much predominated on the venter, in some cases the venters being practically entirely black. One's first impression on examining the series was that two species were involved but as the proportions and counts agreed, and as all four of one colour type were small, and the other four specimens were all large, and of the other colour type, one is led to suggest that the snake grows lighter as it grows more mature.

All specimens were taken in gardens or cultivation except one small one which was found amongst the 'drinks' in a pantry. Five were handled alive and were of a very tranquil disposition. The Khaniqn specimen was killed with a sparrow firmly embedded in its jaws.

*Malpolon monspessulana* Hermann.—The Montpellier Snake.

*Synonyms*.—*Cælopeltis monspessulana*.<sup>1</sup>

*Vernacular Names*.—None known of definitely. Possibly it is the snake spoken of as 'Hannash.'

The distribution is from North Africa, the Mediterranean and the Adriatic to the Levant, Iraq, Caucasus and Persia. Previously one had been recorded from Baghdad.<sup>2</sup> In 1928–29 nine more specimens were examined all from Northern Iraq, being from Baghdad, Mosul, Tuz Khurmatu, and Suwara Tuka, North of Mosul.

Locality	Size (ins.)	Ventrals	Caudals	Colour	Remarks
Baghdad ...	26	163	55+	Bluish grey with pale-edged darker spots. Belly white.	Tail mutilated. Dorsal rows 19.
„ ...	40	200	104	„	„
„ ..	31	176	40+	Olive brown, belly straw.	Tail mutilated.
„ ...	36	186	100	„	...
„ ...	34	176	84	„	...
„ ...	30	174	42+	„	Tail mutilated.
Tuz ...	36	172	90	„	...
Mosul ...	33	172	29+	„	Tail mutilated.
Suwara Tuka (alt. 2,000 ft.)	10 5	170	66	Chocolate brown, belly white.	...

In the complete specimens the tail was a quarter of the body length. In all specimens there were eight supralabials of which the fourth and fifth entered the eye. The anal was invariably divided.

<sup>1</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>2</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia, *J. B. N. H. Soc.* xxvii, No. 2, 1920.

The dorsals were always deeply grooved. Numbers 1 and 2 in the list would appear to be var. *insignitus*<sup>1</sup> and the others var. *neumayeri*.<sup>1</sup> It is remarkable that no fewer than four of the nine had mutilated, that is abbreviated, tails. Most of the specimens came from gardens or cultivation. Four of the six Baghdad specimens came from the highly cultivated Rustum Farm, south of Baghdad, a place with a considerable rodent population.

*Malpolon moilensis* Reuss.—The Moila Snake.

*Synonyms*.—*Celopeltis moilensis*.<sup>2</sup>

*Vernacular Names*.—None known of.

The distribution is North Africa, Syria, Arabia, Iraq and Persia. In Iraq, specimens have been recorded from Sodom, Sheikh Saad and Shaiba.<sup>3</sup> No fresh specimens were seen in 1928 or 1929.

*Psammophis schokari* Forskal.—The Variable Sand Snake.

*Vernacular Names*.—None known of.

The distribution is from North Africa to Arabia, Syria, Palestine, Iraq, Persia, Baluchistan, Afghanistan and Sind. In Iraq, specimens had previously been recorded from Basra and Shaiba.<sup>3</sup> In 1929 a further specimen was brought in from Rutba in the Shamiyah Desert.

The specimen was a young snake, twelve inches long with an olive dorsum streaked with two dark longitudinal bands. The belly was edged longitudinally with the characteristic interrupted lines. The ventrals numbered 183, the caudals 96 and the dorsal rows 19. The anal was divided, and of the nine supralabials, the fifth and sixth entered the eye.

Apparently quite a rarity in Iraq.

#### Family : HYDROPHIIDÆ

*Enhydrina schistosa* Daudin.<sup>4</sup>—The Hook-nosed Sea Snake.

*Synonyms*.—*Enhydrina valakadyen*.<sup>5</sup>

*Vernacular Names*.—None known of.

The distribution is given by Malcolm Smith as from the Persian Gulf to the coast of Cochin-China and the North Coast of Australia. None have been reported from the waters of the Persian Gulf that wash the coastal extremity of Southern Mesopotamia, but in 1929 four snakes were discovered in spirit in the Laboratory at Rustum Farm, Agricultural College, Baghdad. They were labelled '*Hydrophis cyanocincta*—Persian Gulf' and were assumed to be duplicates of the 1921 Cox Cheeseman collection.

No helpful literature was available in Iraq at the time and in consequence very few particulars relating to the specimens were looked for and recorded. However the rows numbered 54 at mid-body, the rostral projected over the lower jaw, the ventrals were barely differentiated, and the individual scales were not imbricate; they

<sup>1</sup> Boulenger, G. A. : The Snakes of Europe, 1913.

<sup>2</sup> Boulenger, G. A. : Catalogue of Snakes in the British Museum, 1893-96.

<sup>3</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

<sup>4</sup> Smith, Malcom. : Monograph of the Sea Snakes, 1926.

<sup>5</sup> Gray. : Catalogue of Snakes in the British Museum, 1849.

bore the faintest suggestion of a short central keel. The colour was dull olive barred with black dorsally. It was decided that the specimens approximated more to *Enhydrina schistosa* and they were so labelled.

An engineer from one of the dredgers employed at the bar of the Shatt-el-Arab off Fao told me that it was not uncommon for sea-snakes four feet in length to be emptied out in the contents of the sludge buckets of the dredger. He said that these snakes were green with black cross-brands and were known to the native crew as being poisonous.

The following additional species of Hydrophiidæ have been recorded from the Persian Gulf : <sup>1</sup>

*Thallasophina viperina* Schmidt.—Persian Gulf and Muscat.

*Hydrophis spiralis* Shaw.—Persian Gulf, Gangestum and Muscat.

*Hydrophis cyanocinctus* Daudin.—Persian Gulf.

*Hydrophis ornatus* Gray.—Muscat.

*Hydrophis lapemoides* Gray.—Persian Gulf and Jask.

*Lapemis curtus* Shaw.—Muscat.

*Microcephalophis gracilis* Shaw.—Persian Gulf and Gulf of Oman.

#### Family : ELAPIDÆ

*Naja morgani*, Moquard. —The Hoodless Cobra.

*Synonyms.*—*Atractaspis wilsoni*.<sup>2</sup>

*Vernacular Names.*—It shares the names 'Urbid' and 'Abrid', that is, the 'black snake' with *C. jugularis* var. *asianus*.

The recorded distribution is Persia and Iraq. Specimens have previously been taken in Shaiba and 'Mesopotamia'.<sup>3</sup>

In 1928 and 1929 five further specimens were secured from Mosul<sup>3</sup>, Baqubah, Mandali, and Rutba in the Shamiyah Desert.

Locality	Size (ins.)	Ventrals	Caudals	Rows	Anal	Remarks
Mosul ...	12	185	46	21	1/1	Uniform black.
„ ...	25	183	43	21	1	„
Baqubah ...	26.5	185	44	21	1/1	Purplish brown, belly paler.
Mandali ...	29	185	30+	23	1	Tail mutilated.  One preocular, two post-oculars. Uniform black.
Rutba ...	22	182	45	21	1/1	„

<sup>1</sup> Smith, Malcom. : Monograph of the Sea Snakes, 1926.

<sup>2</sup> Wall, F. : *J. B. N. H. Soc.* xviii, p. 804, 1908.

<sup>3</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

In the six complete specimens the tail was a sixth to a seventh of the total length. There were invariably seven supralabials with the third and fourth touching the eye. The third also touched the nasal. Unfortunately the periocular scales were not noted in four specimens, nor were the caudals closely examined in any. These gave the impression in every specimen of being divided but a photograph in the writer's possession suggests that a number, six or so, of the more immediately proximal caudals were entire.

It is interesting to compare this cobra with *Walterinnesia aegyptia*, Lataste<sup>1</sup> of which five specimens are known, all recorded from Egypt. Two only, however, are reputed to have their exact provenance known. These were caught on the Cairo-Suez Road. In 'counts', proportions and colouration the two species *N. morgani* and *W. aegyptia* appear to more or less agree. There remains however the generic obstacle in the absence of small teeth behind the fangs in the *Walterinnesia* type specimen. Mr. H. W. Parker of the British Museum was good enough to examine the type specimen and was of the opinion that if a further examination of *Naja morgani* revealed an agreement with *Walterinnesia* in other externals, such as keeling of the posterior dorsal scales; proportion, numbers and distribution of the perioculars; and the variation in the division of the caudals, then a dental dissection ought to be made to verify the generic validity of *Walterinnesia*. I am awaiting with interest the opportunity to again examine specimens.

*Naja morgani* is apparently uniformly distributed throughout Iraq and is not uncommon. It may be found in various habitats and is by no means shy. The young Mosul specimen was picked up on a tennis court. The adult emerged daily from a hole in the gateway of the Mosul Civil Hospital to glide about amongst the waiting patients. This went on for months and the snake enjoyed a certain status as a sort of 'divan habitué' until one day, a request for snakes having been received, he was killed, bottled, and sent in. The Baqubah specimen was brought up alive from a bricked well by an enthusiastic chauffeur. He was passed round an appreciative and inquisitive circle before being killed, pickled, and passed on. Though he hissed very angrily he is said not to have attempted to bite, even when freely handled. The Mandali specimen was taken on a track near cultivation and the Rutba specimen came from the desert. I know of no records of snake-bite by this species or *W. aegyptia* but presume that its genus alone should be sufficient to procure it respect.

Family : VIPERIDÆ.

Sub-family : VIPERINÆ.

*Vipera lebetina*, Linnaeus.—The Levantine or Blunt-nosed Viper.  
Synonyms.—*Vipera euphratica*,<sup>2</sup> *Daboia xanthina*.<sup>3</sup>

Vernacular Names.—In spite of the fairly frequent occurrence of this snake and of its reputation, I could not get hold of a name for it.

<sup>1</sup> Lataste : Le Naturaliste, p. 411, 1887.

<sup>2</sup> Martin : Proceedings Zoological Society of London, 1838.

<sup>3</sup> Gray : Catalogue of Snakes in the British Museum, 1849.



Everyone north of Baghdad knew of it and could describe it. It was always spoken of as being deaf. On one occasion a Mosuli described it surprisingly well as 'a dangerously poisonous snake, with a thick body and a thin neck, a tail like a cigarette, of a brown colour, and blind and deaf'. In Cyprus the snake is known as 'Koufi', a Greek derivation meaning deaf. I understand that in ancient Assyria (Mosul and area) a word 'Kuppu' was used in application to a 'terrible snake'. In the Mosul area to-day an inquiry as to the 'deaf snake' would, I think, instantly bring descriptions of the Levantine Viper. However, I was unable to collect a definite name.

The distribution is from North Africa, Greece and Cyprus to the Levant, Transcaucasia, Iraq, Persia and North-West India. In Iraq, specimens have previously been recorded from Baghdad and Aushuru (?).<sup>1</sup> During 1928, 1929 and early 1930 seven more specimens were examined; all of them from places in the north-east of Iraq, namely Sulamainia, Mandali, Mosul, Baqubah, Jebal Hamrin, Qaragan and Barazan on the Greater Zab River.

Locality	Size (ins.)	Ventrals	Caudals	Dorsal rows	Remarks
Sulamainia ...	12	173	52	27	Very dark; young specimen.
Mandali ...	22	150	44	23	...
Mosul ...	24	181	48	25	Bit man, result recovery.
Baqubah ...	38	162	38	25	...
Jebal Hamrin ...	40	164	47	23	Bit man, result fatal.
Qaragan ...	25	176	53	23	...
Barazan (Greater Zab)	38	173	46	25	...

In all specimens the tail was about a seventh of the body length. The scales were invariably strongly keeled, the anal was always single and ten supralabials were constant. The colour ranged from dark olive in the smallest specimen, with clear cut darker markings, to pale grey or brownish grey with less defined markings in the largest specimens. The larger the snake the lighter the colour. The bellies always exhibited the characteristic viperine speckling.

Mr. J. Parlbay once spoke to me of having seen a snake answering in description to *V. lebetina*, travelling downstream in the Diyala River near Qaragan.

*Vipera lebetina* seems to be confined to the hills and broken country north-east of Baghdad. There is no record of *E. carinatus* thereabouts and only one of the nine *C. cornutus* recorded below for Iraq, came from this region. There are no other vipers occurring in Iraq. Out of seventeen cases of bite (viperine type) by unidentified

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

snakes no fewer than fourteen came from this area as did also two cases in which the snake was identified as *V. lebetina*. It rather looks as though the majority of snake-bite accidents in Iraq are caused by this viper. If this is correct, then the mortality from its bite would be forty-four per cent, seven deaths in sixteen cases. This is a high percentage, but, that it is quite possibly of true significance is suggested by the widespread fear in which the 'deaf snake' is held in the country north and east of Baghdad.

It is spoken of as being deaf and blind on account of its sluggishness and torpidity by day, a characteristic also, I understand, of its congener the Indian Daboia, *V. russelli*. If shouted at or threatened with a stick it is said to show no perturbation whatever.

*Cerastes cornutus* Linnaeus.—The Horned Viper or Asp.

*Vernacular Names.*—'Efa' and an apparent corruption 'Al Fiyah' appear to be applied in Iraq to all noxious snakes, more particularly vipers, and most particularly to the Horned Viper. 'Qarna' and 'Um Grun' are also used referring to its horns and I have heard it discussed and described in the Muntafik Liwa as 'Um Jenaib' in reference to its peculiarity in coiling (i.e. moving) to a flank, with its head poised and threatening to the front. 'Abu Jenaib' is used of the local fresh-water crab.

The distribution is North Africa, Arabia, Palestine, Syria and Iraq. It is figured on the monuments of ancient Egypt, Babylonia, and Assyria. In Iraq previous records, six in number, all of hornless specimens, were from Basra and Shaiba.<sup>1</sup> In the period 1927-30, three more records were obtained, all of horned specimens. One from Nebr in the Muntafik area lived in the writer's possession for seven months. Another was responsible for a fatality in Dohuk, North of Mosul, and the third specimen came from Rutba, in the Shamiyah Desert.

Locality	Size (ins.)	Ventrals	Caudals	Rows	Remarks
Nebr	15	...	...	...	No counts done. Lived in writer's possession for over seven months.
Rutba	15	144	37	29	Anal single, supra-labials thirteen.
Dohuk	30	...	...	...	No counts done. Bit a man who died in 24 hours.

The characteristic flat triangular 'ace of spades' head was notable in both specimens seen. The Dohuk specimen was reported by the relatives of the bitten man as being about four-hand spans long, as having horns, and as having a thick body and a broad head.

<sup>1</sup> Boulenger, G. A. : A List of Snakes from Mesopotamia. *J. B. N. H. Soc.* xxvii, No. 2, 1920.

Incidentally this is the only record I know of in which death has resulted from *Cerastes* bite. The other eight specimens of this snake came from the desert plains to the south and west but I feel that the Dohuk fatality rings true and should be accepted although no doctor saw the victim alive, or the snake.

*Echis carinatus* Schneider.—The Saw-scaled Viper.

*Vernacular Names*.—None known of. Would probably be spoken of as 'El Efa.'

The distribution is from North Africa, Syria and Arabia to Iraq, Persia and India. In Iraq one has previously been recorded from Imam Hamza in the Diwaniyah area.<sup>1</sup> This was in 1924, the specimen being responsible for a fatality. Since that date four further cases of snake-bite have occurred in the same region. In three instances followed by recovery, the snake was identified as *Echis carinatus*. In the fourth case which terminated fatally the snake was not seen and although for various reasons I consider that the snake must have been an *Echis*, I do not record it as such here as this paper is intended to be more or less purely zoological and should take note only of snakes actually identified.

Locality	Size (ins.)	Dorsal Rows	Colour	Remarks
Imam Hamza ...	16	25 keeled	Characteristic broad arrow	Fatal bite.
Diwaniyah ...	...	No particulars recorded	...	Bite—recovery.
" ...	...	" "	...	" "
Khan Judwhal ...	...	" "	...	" "

It is notable that all these four specimens came from the Middle Euphrates and none from elsewhere in Iraq.

<sup>1</sup> Sinderson, H. C. : Snake Bite in Iraq. *Edin. Med. Journal.* Nov., 1924.

The conclusions of this rather superficial survey may be conveniently tabulated as follows.

Species	Distribution in Iraq	Number of new specimens	Remarks
TYPHLOPIDÆ			
1. <i>T. braminus</i> ...	Basra	<i>Nil</i>	...
2. <i>T. vermicularis</i> ...	Riverain Iraq	2	New for Iraq
LEPTOTYPHLOPIDÆ			
3. <i>L. macrorhynchus</i> ...	Riverain Iraq	3	...
BOIDÆ			
4. <i>E. jaculus familiaris</i> .	Iraq including Kurdistan	8	Colour variety in Kurdistan
COLUBRIDÆ			
<i>Aglypha</i>			
5. <i>N. tessellatus</i> ...	Throughout Iraq excluding Kurdistan	15	...
6. <i>C. dahlii</i> ...	Baghdad area	2	...
7. <i>C. diadema</i> ...	Throughout Iraq including Kurdistan	12	Colour variety in Kurdistan
8. <i>C. jugularis</i> ...	Riverain Iraq	8	Var. <i>asianus</i>
9. <i>C. ravergieri</i> ...	Mosul	2	New for Iraq.
10. <i>C. ventrimaculatus</i> ...	Riverain Iraq	18	...
11. <i>L. diadema</i> ...	Western Iraq	1	...
12. <i>C. collaris</i> ...	Northern Iraq and Kurdistan	2	...
13. <i>C. coronella</i> ...	Western Iraq	1	...
14. <i>C. decemlineata</i> ...	North East Iraq and Kurdistan	3	New for Iraq. A mountain species?
15. <i>C. persica</i> ...	North East Iraq	<i>Nil</i>	Relationship to <i>C. collaris</i> ?
<i>Opisthoglypha</i>			
16. <i>T. fallax iberus</i> ...	Iraq excluding Kurdistan	8	Young darker than adults

Species	Distribution in Iraq	Number of new specimens	Remarks
17. <i>M. monspessulana</i> ...	Iraq and Kurdistan	9	Var. <i>insignitus</i> and Var. <i>neumayeri</i>
18. <i>M. moilensis</i> ...	Southern Iraq	<i>Nil</i>	...
19. <i>P. schokari</i> ...	Western Iraq	1	...
HYDROPHIIDÆ			
20. <i>E. schistosa</i> ...	Persian Gulf. Possibly Shatt-el-Arab	4	No records of bite. New for Iraq.
ELAPIDÆ			
21. <i>N. morgani</i> ...	Iraq as far North as Mosul	5	No records of bite. Possibly related to <i>W. ægyptia</i> .
VIPERIDÆ			
<i>Viperine</i>			
22. <i>V. lebetina</i> ...	North East Iraq and Kurdistan	7	Two cases of bite—one death. Probably responsible for many more.
23. <i>C. cornutus</i> ...	Iraq as far North and East as Dohuk (Mosul)	3	One case of bite—one death. First horned specimens from Iraq.
24. <i>E. carinatus</i> ...	Middle Euphrates	4	Four cases of bite—one death.